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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/704,881	11/02/2000	Richard L. Watkins	4022.000007	4644

7590 04/19/2006

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EXAMINER

MIGGINS, MICHAEL C

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/704,881		WATKINS, RICHARD L.	
	Examiner		Art Unit	
	Michael C. Miggins		1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-19 and 26-28 is/are rejected.
- 7) ☒ Claim(s) 20-25 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION


1. In view of the appeal brief filed on 1/30/06, PROSECUTION IS HEREBY REOPENED. New grounds for rejections are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:


HAROLD PYON
SUPERVISORY PATENT EXAMINER
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Examiner's Comments

2. All of the rejections maintained in the final rejection of 7/6/05, pages 2-3, paragraph 2 are repeated for the reasons of record. However, new double patenting rejections are set forth below. Applicant can reinstate the appeal in response to the action. Applicant must list all claims in the appeal brief, even canceled ones using the header (canceled).

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-2 and 5-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10/137,531 (which has now been allowed) in view of Ramesh (US 6274228 B1).

Claims 1-24 of copending Application No. 10/137,531 recite a method for improving adhesion between two adjacent layers of a laminate membrane as recited by applicant in claim 1.

However, copending Application No. 10/137,531 fails to recite annealing the laminate at a temperature at least about 80 degrees above a thermal transition temperature.

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However, PA-12 has a glass transition temperature of 37 degrees C and Ramesh teaches an annealing temperature of 100 degrees C (column 15, lines 10-27).

Therefore the Ramesh temperature is 63 degrees over the glass transition temperature of PA-12. It is well settled that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges or an optimum value of a result effective variable involves only routine skill in the art (MPEP 2144). It would have been well within the purview of one of ordinary skill in the art to have annealed at a higher temperature in order to provide greater adhesion between the layers. Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided annealing the laminate at a temperature at least about 80 degrees C in order to provide greater adhesion between the layers.

This is a provisional obviousness-type double patenting rejection.

5. Claim 3 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10/137,531 (which has now been allowed) in view of Ramesh et al. (U.S. Patent No. 6,274,228 B1), as applied to claims 1-2 and 5-8 above, and further in view of Wang et al. (U.S. Patent No. 6,124,007).

Claims 1-24 of copending Application No. 10/137,531 fail to disclose wherein at least one of the first and second layers includes a semi-crystalline component.

Wang et al. teach a two layer laminate which is annealed (column 3, lines 34-38)

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wherein at least one of the first and second layers includes a semi-crystalline component (see column 4, lines 15-20, since liquid crystals are semi-crystalline) (applies to instant claim 3) for the purpose of providing improved flexibility and burst strength (column 2, lines 35-43).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided at least one of the first and second layers including a semi-crystalline component in the method of claims 1-24 of copending Application No. 10/137,531 in order to provide improved flexibility and burst strength as taught or suggested by Wang et al..

6. Claims 4, 16-19 and 26-28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10/137,531 (which has now been allowed) in view of Ramesh et al. (U.S. Patent No. 6,274,228 B1), as applied to claims 1-2 and 5-8 above, and further in view of Bonk et al. (U.S. Patent No. 6,082,025).

Ramesh et al. teach a method wherein the annealing step is carried out at a temperature of at least about 100, or 150 degrees C (column 14, lines 23-46) (applies to instant claims 16-17).

With regard to instant claim 28, Ramesh et al. teach wherein the thermoplastic polymeric barrier layer comprises a material selected from the group consisting of ethylene-vinyl alcohol copolymers, vinylidene chloride polymer, acrylonitrile polymer, copolymers of acrylonitrile and methyl acrylate, semicrystalline polyesters, polyethylene

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terephthalate, polyamides, crystalline polymers, epoxy resins based on N,N-dimethylethylenediamine and resorcinol, polyurethane engineering thermoplastics, and combinations thereof (column 4, lines 43-51) (applies to instant claim 28).

With regard to instant claims 4, 18-19 and 27, claims 1-24 of copending Application No. 10/137,531 recite applicant's invention substantially as claimed. However, claims 1-24 of copending Application No. 10/137,531 fail to disclose wherein the first layer is a thermoplastic elastomer layer and the second layer is a thermoplastic polymeric barrier layer, wherein the first layer comprises a thermoplastic polyurethane prepared from a polyester diol and the second layer comprises an ethylene-vinyl alcohol copolymer, further comprising at least a third layer comprising a thermoplastic polyurethane prepared from a polyester diol that is adjacent to the second layer, wherein the thermoplastic elastomer layer comprises a material selected from the group consisting of polyurethanes prepared using polyester, polyether, and polycarbonate diols, flexible polyolefins, styrenic thermoplastic elastomers, polyamide elastomers, polyamide-ether elastomers, polymeric ester-ether elastomers, flexible ionomers, thermoplastic vulcanizates, vulcanized EPDM in polypropylene, flexible poly(vinyl chloride) homopolymers and copolymers, flexible acrylic polymers, and combinations thereof.

With regard to instant claims 4, 18-19 and 27, Bonk et al. teach a first layer which is a thermoplastic elastomer layer and the second layer which is a thermoplastic polymeric barrier layer (column 7, lines 1-67 and column 12, lines 52-67), wherein the first layer comprises a thermoplastic polyurethane prepared from a polyester diol

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(column 7, lines 46-62 and column 12, lines 52-67) and the second layer comprises an ethylene-vinyl alcohol copolymer (column 12, lines 1-23 and column 12, lines 52-67), further comprising at least a third layer comprising a thermoplastic polyurethane prepared from a polyester diol that is adjacent to the second layer (column 7, lines 46-62 and column 14, lines 54-67), wherein the thermoplastic elastomer layer comprises a material selected from the group consisting of polyurethanes prepared using polyester, polyether, and polycarbonate diols, flexible polyolefins, styrenic thermoplastic elastomers, polyamide elastomers, polyamide-ether elastomers, polymeric ester-ether elastomers, flexible ionomers, thermoplastic vulcanizates, vulcanized EPDM in polypropylene, flexible poly(vinyl chloride) homopolymers and copolymers, flexible acrylic polymers, and combinations thereof (column 7, lines 31-62) (applies to instant claims 4, 18-19 and 27) in a method for forming multi-layer laminates (column 13, lines 51-64) for the purpose of providing enhanced inter-layer bonding.

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a first layer which is a thermoplastic elastomer layer and a second layer which is a thermoplastic polymeric barrier layer, wherein the first layer comprises a thermoplastic polyurethane prepared from a polyester diol and the second layer comprises an ethylene-vinyl alcohol copolymer, further comprising at least a third layer comprising a thermoplastic polyurethane prepared from a polyester diol that is adjacent to the second layer, wherein the thermoplastic elastomer layer comprises a material selected from the group consisting of polyurethanes prepared using polyester, polyether, and polycarbonate diols, flexible

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polyolefins, styrenic thermoplastic elastomers, polyamide elastomers, polyamide-ether elastomers, polymeric ester-ether elastomers, flexible ionomers, thermoplastic vulcanizates, vulcanized EPDM in polypropylene, flexible poly(vinyl chloride) homopolymers and copolymers, flexible acrylic polymers, and combinations thereof in the method of Ramesh et al. in order to provide enhanced inter-layer bonding as taught or suggested by Bonk et al.

With regard to instant claim 26, Bonk et al. do not specifically teach at least one of the polymeric components of at least one of the first and second layers has a glass transition temperature in the range of from about -30 to about 20 degrees C. However, the limitation is necessarily present in Bonk et al. because applicant states that polyester polyols have glass transition temperatures in the range of from about -30 to about 20 degrees C and incorporates by reference the polyester polyols of Bonk et al. (see instant specification page 10, line 21 through page 11, line 10). Furthermore it would have been obvious to one of ordinary skill in the art to have provided at least one of the polymeric components of at least one of the first and second layers has a glass transition temperature in the range of from about -30 to about 20 degrees C in order to provide improved inter-layer adhesion (applies to instant claim 26).

7. Claims 10-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10/137,531 (which has now been allowed) in view of Ramesh et al. (U.S. Patent No. 6,274,228 B1) and Bonk et al. (U.S. Patent No.

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6,082,025), as applied to claims 4, 16-19 and 26-28 above, and further in view of Wang et al. (U.S. Patent No. 6,124,007).

With regard to instant claim 10, claims 1-24 of copending Application No. 10/137,531 recite applicant's invention substantially as claimed. However, claims 1-24 of copending Application No. 10/137,531 fail to recite wherein the laminate is formed into a shape by blow molding before the annealing step.

Wang et al. teach a method wherein the laminate is formed into a shape by blow molding before the annealing step (column 3, lines 33-38) (applies to instant claim 10) for the purpose of providing improved flexibility and burst strength (column 2, lines 35-43).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided the step wherein the laminate is formed into a shape by blow molding before the annealing step in the method of Ramesh et al. in order to provide improved flexibility and burst strength as taught or suggested by Wang et al..

With regard to instant claims 11-15, neither reference specifically teach wherein the annealing step is carried out within about 2 hours, 1.5 hours, or 1 hour, or 30 minutes, or 15 minutes of the blow molding step. However, Ramesh et al. teach that the film can be annealed or heated to elevated temperature while it is inflated (column 15, line 55-65). Furthermore, Wang et al. teach blow molding followed by an annealing step (column 8, lines 50-67). Thus, it appears that the references suggest that annealing take place while inflated or immediately after blow molding and it would have

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been obvious to one having ordinary skill in the art at the time the invention was made to have provided wherein the annealing step is carried out within about 2 hours, or 1.5 hours, or 1 hour, or 30 minutes, or 15 minutes of the blow molding step in order to shorten processing time thus lowering production costs (applies to instant claims 11-15).

Allowable Subject Matter

8. Claims 20-25 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regard to claim 20, from which claims 21-25 and 29 depend, the prior art fails to teach or suggest a method from which a laminate is formed wherein the first layer comprises a thermoplastic polyurethane prepared from a polyester diol and the second layer comprises an ethylene-vinyl alcohol copolymer, and further wherein said blow molding step provides a bladder that is sealed and inflated after the annealing step. The combination of Ramesh et al. and Wang et al. disclose a post blowing annealing step but do not disclose wherein said blow molding step provides a bladder that is sealed and inflated after the annealing step.

Conclusion

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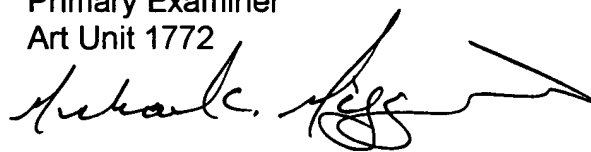
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Miggins whose telephone number is 571-272-1494. The examiner can normally be reached on 1:00-10:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MCM
April 17, 2006

Michael C. Miggins
Primary Examiner
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A handwritten signature in black ink, appearing to read "Michael C. Miggins", with a long horizontal flourish extending to the right.